

## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2009-0464; Directorate Identifier 2008-NM-189-AD; Amendment 39-15992; AD 2008-16-09 R1]**

**RIN 2120-AA64**

#### **Airworthiness Directives; Short Brothers Model SD3-60 Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), Department of Transportation (DOT).

**ACTION:** Final rule.

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**SUMMARY:** We are revising an existing airworthiness directive (AD) for the products listed above. This AD results from mandatory continuing airworthiness information (MCAI) originated by an aviation authority of another country to identify and correct an unsafe condition on an aviation product. The MCAI describes the unsafe condition as:

There have been several occurrences of cracked elevator trim tab balance weight attachment brackets, on one occasion, the elevator trim tab mass balance weight bracket separated from the aircraft. The loss of an elevator trim tab mass balance weight bracket has the potential to cause damage to an aircraft, or cause serious injury to personnel.

\* \* \* \* \*

We are issuing this AD to require actions to correct the unsafe condition on these products.

**DATES:** This AD becomes effective September 16, 2009.

The Director of the Federal Register previously approved the incorporation by reference of certain publications listed in this AD as of September 15, 2008 (73 FR 46543, August 11, 2008).

The Director of the Federal Register previously approved the incorporation by reference of a certain publication listed in this AD as of March 14, 2005 (70 FR 9212, February 25, 2005).

The Director of the Federal Register previously approved the incorporation by reference of a certain other publication listed in this AD as of September August 3, 2004 (69 FR 38813, June 29, 2004).

**ADDRESSES:** You may examine the AD docket on the Internet at <http://www.regulations.gov> or in person at the U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue, SE., Washington, DC.

**FOR FURTHER INFORMATION CONTACT:** Todd Thompson, Aerospace Engineer, International Branch, ANM-116, Transport Airplane Directorate, FAA, 1601 Lind Avenue, SW., Renton, Washington 98057-3356; telephone (425) 227-1175; fax (425) 227-1149.

## **SUPPLEMENTARY INFORMATION:**

### **Discussion**

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to include an AD to revise AD 2008-16-09, amendment 39-15627 (73 FR 46543, August 11, 2008). The existing AD applies to the products identified in this AD. The NPRM was published in the Federal Register on May 20, 2009 (74 FR 23668). That NPRM proposed to correct an unsafe condition for the specified products.

Since we issued AD 2008-16-09, Short Brothers advised that SD3-07-6011xA brackets manufactured in 2005 or later have a life limit of 28,800 flight hours, per Section 5-00-02 of the Short Brothers SD360 Aircraft Maintenance Manual (AMM), and as noted in Appendix 1 of Shorts Alert Service Bulletin SD360-55-A21, Revision 1, dated March 29, 2007. In light of this, we have revised the existing AD to extend the life limit of any balance weight bracket from 1,750 flight hours to 28,800 flight hours. You may obtain further information by examining European Aviation Safety Agency Airworthiness Directive 2007-0107-E, dated April 18, 2007 (referred to after this as "the MCAI"), in the AD docket.

In addition, we removed paragraphs (f) and (l)(1) of the existing AD from this AD. Those paragraphs defined the use of the term "service bulletin," as used in the AD.

### **Comments**

We gave the public the opportunity to participate in developing this AD. We received no comments on the NPRM or on the determination of the cost to the public.

### **Conclusion**

We reviewed the available data and determined that air safety and the public interest require adopting the AD as proposed.

### **Differences Between This AD and the MCAI or Service Information**

We have reviewed the MCAI and related service information and, in general, agree with their substance. But we might have found it necessary to use different words from those in the MCAI to ensure the AD is clear for U.S. operators and is enforceable. In making these changes, we do not intend to differ substantively from the information provided in the MCAI and related service information.

We might also have required different actions in this AD from those in the MCAI in order to follow our FAA policies. Any such differences are highlighted in a NOTE within the AD.

### **Costs of Compliance**

We estimate that this AD will affect 21 products of U.S. registry. We also estimate that it will take about 8 to 12 work-hours per product to comply with the basic requirements of this AD. The average labor rate is \$80 per work-hour. Required parts will cost about \$632 to \$864 per product. Where the service information lists required parts costs that are covered under warranty, we have assumed that there will be no charge for these parts. As we do not control warranty coverage for affected parties, some parties may incur costs higher than estimated here. Based on these figures, we

estimate the cost of this AD to U.S. operators to be between \$26,712 and \$38,304, or between \$1,272 and \$1,824 per product.

### **Authority for This Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. "Subtitle VII: Aviation Programs," describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in "Subtitle VII, Part A, Subpart III, Section 44701: General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

### **Regulatory Findings**

We determined that this AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this AD:

1. Is not a "significant regulatory action" under Executive Order 12866;
2. Is not a "significant rule" under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and
3. Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

We prepared a regulatory evaluation of the estimated costs to comply with this AD and placed it in the AD docket.

### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov>; or in person at the Docket Operations office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains the NPRM, the regulatory evaluation, any comments received, and other information. The street address for the Docket Operations office (telephone (800) 647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

### **Adoption of the Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

### **PART 39—AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

**§ 39.13 [Amended]**

2. The FAA amends § 39.13 by removing amendment 39-15627 (73 FR 46543, August 11, 2008) and adding the following new AD:



**2008-16-09 R1 Short Brothers PLC:** Amendment 39-15992. Docket No. FAA-2009-0464; Directorate Identifier 2008-NM-189-AD.

### **Effective Date**

- (a) This airworthiness directive (AD) becomes effective September 16, 2009.

### **Affected ADs**

- (b) This AD revises AD 2008-16-09.

### **Applicability**

- (c) This AD applies to all Shorts Model SD3-60 airplanes, certificated in any category.

### **Subject**

- (d) Air Transport Association (ATA) of America Code 55: Stabilizers.

### **Reason**

- (e) The mandatory continuing airworthiness information (MCAI) (i.e., European Aviation Safety Agency Airworthiness Directive 2007-0107-E, dated April 18, 2007) states:

There have been several occurrences of cracked elevator trim tab balance weight attachment brackets, on one occasion, the elevator trim tab mass balance weight bracket separated from the aircraft. The loss of an elevator trim tab mass balance weight bracket has the potential to cause damage to an aircraft, or cause serious injury to personnel.

\* \* \* \* \*

### **Compliance**

- (f) You are responsible for having the actions required by this AD performed within the compliance times specified, unless the actions have already been done.

### **Restatement of Requirements of AD 2004-13-08, Amendment 39-13690, With Revised Service Information**

### **Initial Inspection**

- (g) Within 2 months after August 3, 2004 (the effective date of AD 2004-13-08, amendment 39-13690): Do a dye penetrant inspection for cracking in the welded joints of the balance weight brackets for the left and right elevator trim tabs, in accordance with the Accomplishment Instructions of Short Brothers Service Bulletin SD360-55-20, dated June 26, 2003; Shorts Service Bulletin

### **Investigative and Corrective Actions if No Cracking Is Found**

(h) If no cracking is found during the inspection required by paragraph (g) of this AD, do the actions required by paragraphs (h)(1) and (h)(2) of this AD at the applicable compliance times.

(1) Repeat the inspection required by paragraph (g) of this AD at intervals not to exceed 4,800 flight hours until the bracket is replaced per paragraph (h)(2) or (i) of this AD.

(2) Prior to the accumulation of 28,800 total flight hours, or within 6 months after August 3, 2004, whichever occurs later: Replace any bracket that has not been replaced per paragraph (i) of this AD with a new bracket or with a serviceable bracket that has been inspected in accordance with paragraph (g) of this AD. Replace in accordance with the Accomplishment Instructions of Short Brothers Service Bulletin SD360-55-20, dated June 26, 2003; Shorts Service Bulletin SD360-55-20, Revision 1, dated June 20, 2005; or Shorts Service Bulletin SD360-55-20, Revision 2, dated March 29, 2007. Replacement of the brackets constitutes terminating action for the repetitive inspections required by paragraph (h)(1) of this AD.

### **Corrective Actions if Any Cracking Is Found**

(i) If any cracking is found during any inspection required by paragraph (g) or (h) of this AD: Before further flight, accomplish the applicable action in paragraph (i)(1) or (i)(2) of this AD in accordance with the Accomplishment Instructions of Short Brothers Service Bulletin SD360-55-20, dated June 26, 2003; Shorts Service Bulletin SD360-55-20, Revision 1, dated June 20, 2005; or Shorts Service Bulletin SD360-55-20, Revision 2, dated March 29, 2007.

(1) For airplanes that have accumulated less than 28,800 flight hours and on which all cracking on brackets is less than 0.25 inch in length: Repair the affected bracket in accordance with Part B of the Accomplishment Instructions of Short Brothers Service Bulletin SD360-55-20, dated June 26, 2003; Shorts Service Bulletin SD360-55-20, Revision 1, dated June 20, 2005; or Shorts Service Bulletin SD360-55-20, Revision 2, dated March 29, 2007 (including the additional dye penetrant inspection of the repaired welded joint); and repeat the inspection required by paragraph (g) of this AD at intervals not to exceed 4,800 flight hours; or replace the bracket in accordance with paragraph (h)(2) of this AD. Replacement of the bracket constitutes terminating action for the repetitive inspections.

(2) For any airplane on which any cracking on a bracket is 0.25 inch in length or greater, and for any airplane that has accumulated 28,800 flight hours or more on which any cracking of any length is found on a bracket: Replace the affected bracket with a new bracket or with a serviceable bracket that has been inspected in accordance with paragraph (g) of this AD. Replacement of the bracket constitutes terminating action for the repetitive inspections required by paragraph (i)(1) of this AD.

### **Refitting**

(j) Before further flight, following any inspection per paragraph (g) or (h) of this AD; or before further flight following repair or replacement of a bracket per paragraph (h)(2) or (i) of this AD: Refit the balance weights, covers, and trim tabs, in accordance with the Accomplishment Instructions of Short Brothers Service Bulletin SD360-55-20, dated June 26, 2003; Shorts Service Bulletin SD360-55-20, Revision 1, dated June 20, 2005; or Shorts Service Bulletin SD360-55-20, Revision 2, dated March 29, 2007. Where the Accomplishment Instructions of Short Brothers Service Bulletin SD360-55-20, dated June 26, 2003; Shorts Service Bulletin SD360-55-20, Revision 1, dated June 20, 2005; or Shorts Service Bulletin SD360-55-20, Revision 2, dated March 29, 2007; specify to contact the manufacturer for disposition of certain conditions while refitting, obtain further disposition

instructions from the Manager, International Branch, ANM-116, Transport Airplane Directorate, FAA; or the European Aviation Safety Agency (EASA) (or its delegated agent).

## **Parts Installation**

(k) As of August 3, 2004, no person may install on any airplane a balance weight bracket unless the welded joint has been inspected in accordance with paragraph (g) of this AD.

## **Restatement of Requirements of AD 2005-04-13, Amendment 39-13985, With Revised Service Information**

### **Return of Parts to Manufacturer Not Required**

(l) Although the Accomplishment Instructions of Short Brothers Alert Service Bulletin SD360-55-A21, dated December 16, 2004; or Shorts Alert Service Bulletin SD360-55-A21, Revision 1, dated March 29, 2007; specify to return subject parts to the manufacturer, this AD does not include that requirement.

## **Repetitive Inspections**

(m) For airplanes equipped with balance weight brackets of the elevator trim tabs having part number SD3-07-6011xA, and having a serial number beginning with "X3" or "X4": Prior to the accumulation of 250 flight hours since installation of the subject balance weight bracket of the elevator trim tab, or within 30 flight hours after March 14, 2005 (the effective date of AD 2005-04-13), whichever is later, do a dye penetrant inspection for cracking of the balance weight brackets for the left and right elevator trim tabs, in accordance with Short Brothers Alert Service Bulletin SD360-55-A21, dated December 16, 2004; or Shorts Alert Service Bulletin SD360-55-A21, Revision 1, dated March 29, 2007.

(1) For a balance weight bracket on which no cracking is found: Do paragraph (o) of this AD, and repeat the inspection thereafter at intervals not to exceed 250 flight hours until paragraph (n) of this AD is accomplished.

(2) For a balance weight bracket on which any cracking is found: Before further flight, replace the bracket with a new or reworked balance weight bracket that conforms to the approved design standard, in accordance with Short Brothers Alert Service Bulletin SD360-55-A21, dated December 16, 2004; or Shorts Alert Service Bulletin SD360-55-A21, Revision 1, dated March 29, 2007; and do paragraph (o) of this AD.

## **Optional Terminating Action**

(n) For airplanes equipped with balance weight brackets of the elevator trim tabs having part number SD3-07-6011xA, and having a serial number beginning with "X3" or "X4": Replacement of any subject balance weight bracket with a new or reworked balance weight bracket that conforms to the approved design standard, in accordance with the Accomplishment Instructions of Short Brothers Alert Service Bulletin SD360-55-A21, dated December 16, 2004; or Shorts Alert Service Bulletin SD360-55-A21, Revision 1, dated March 29, 2007; constitutes terminating action for the repetitive inspections required by paragraph (m) of this AD for the replaced bracket.

## **Refitting**

(o) For airplanes equipped with balance weight brackets of the elevator trim tabs having part number SD3-07-6011xA, and having a serial number beginning with "X3" or "X4": Before further flight following any inspection or replacement of a bracket in accordance with paragraphs (m) and (n)

of this AD: Refit the balance weights, covers, and trim tabs, in accordance with the Accomplishment Instructions of Short Brothers Alert Service Bulletin SD360-55-A21, dated December 16, 2004; or Shorts Alert Service Bulletin SD360-55-A21, Revision 1, dated March 29, 2007. Where the Accomplishment Instructions of Short Brothers Alert Service Bulletin SD360-55-A21, dated December 16, 2004; or Shorts Alert Service Bulletin SD360-55-A21, Revision 1, dated March 29, 2007; specify to contact the manufacturer for disposition of certain conditions while refitting, obtain further disposition instructions from the Manager, International Branch, ANM-116, Transport Airplane Directorate, FAA; or the European Aviation Safety Agency (EASA) (or its delegated agent).

## **Parts Installation**

(p) For all airplanes: As of March 14, 2005, no person may install, on any airplane subject to this AD, a balance weight bracket having part number SD3-07-6011xA, and having a serial number beginning with "X3" or "X4," unless the bracket is also marked "Rework batch number R-Bxxxxxx" (where "xxxxxx" is a number).

## **Restatement of Requirements of AD 2008-16-09, Amendment 39-15627, With Extended Repetitive Interval in Paragraph (q)(2) of This AD**

### **Inspection(s) and Replacements**

(q) For airplanes equipped with balance weight brackets of the elevator trim tabs having part number SD3-07-6011xA manufactured in the year 2003 or 2004, including reworked brackets, installed in accordance with paragraph (h)(2), (i)(2), or (n) of this AD, as applicable: Do the actions specified in paragraphs (q)(1) and (q)(2) of this AD in accordance with Parts A and B of the Accomplishment Instructions of Shorts Alert Service Bulletin SD360-55-A21, Revision 1, dated March 29, 2007.

(1) Within 30 flight hours after September 15, 2008 (the effective date of AD 2008-16-09) or within 250 flight hours since installation of the balance weight brackets of the elevator trim tabs or since the last inspection required by paragraph (g), (h)(1), (i)(1), or (m) of this AD, whichever occurs later: Do a dye penetrant inspection to detect cracks of the balance weight brackets of the elevator trim tabs.

(i) If no crack is detected, repeat the dye penetrant inspection at intervals not to exceed 250 flight hours, until the replacement required by paragraph (q)(2) of this AD is done.

(ii) If any crack is detected, before further flight, do the replacement specified in paragraph (q)(2) of this AD.

(2) Before the accumulation of 1,750 flight hours since installation of the balance weight brackets of the elevator trim tabs, or within 180 days after September 15, 2008, whichever occurs later: Replace the balance weight brackets with new balance weight brackets manufactured in 2005 or later. Thereafter, replace any balance weight bracket with a new bracket manufactured in 2005 or later at intervals not to exceed the accumulation of 28,800 flight hours on that bracket. Accomplishment of the initial replacement ends the repetitive inspection requirements of this AD.

(r) For airplanes equipped with balance weight brackets of the elevator trim tabs having part number SD3-31-6213xB inspected in accordance with paragraph (g), (h)(1), or (i)(1) of this AD and retained or refitted following approved repair in accordance with paragraph (j) of this AD: Do the actions specified in paragraphs (r)(1) and (r)(2) of this AD in accordance with Parts A and B of the Accomplishment Instructions of Shorts Alert Service Bulletin SD360-55-20, Revision 2, dated March 29, 2007.

(1) Within 4,800 flight hours since last inspection, or within 180 days after September 15, 2008, whichever occurs later, and thereafter at intervals not to exceed 4,800 flight hours: Do a dye penetrant inspection to detect cracks of the balance weight brackets of the elevator trim tabs.



(i) If no crack is detected, repeat the dye penetrant inspection at intervals not to exceed 4,800 flight hours, until the replacement required by paragraph (r)(2) of this AD is done.

(ii) If any crack is detected, before further flight, do the replacement specified in paragraph (r)(2) of this AD.

(2) Before the accumulation of 28,800 flight hours since any balance weight bracket of the elevator trim tabs is new, or within 180 days after September 15, 2008, whichever occurs later: Replace the balance weight brackets with new balance weight brackets manufactured in 2005 or later. Thereafter, replace any balance weight bracket with a new bracket manufactured in 2005 or later at intervals not to exceed the accumulation of 28,800 flight hours on that bracket. Accomplishment of the initial replacement ends the repetitive inspection requirements of this AD.

## **Part Installation**

(s) For all airplanes: As of September 15, 2008, no person may install, on any airplane, a balance weight bracket of the elevator trim tab manufactured earlier than 2005.

## **FAA AD Differences**

Note 1: This AD differs from the MCAI and/or service information as follows: No differences.

## **Other FAA AD Provisions**

(t) The following provisions also apply to this AD:

(1) Alternative Methods of Compliance (AMOCs): The Manager, International Branch, ANM-116, Transport Airplane Directorate, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. Send information to ATTN: Todd Thompson, Aerospace Engineer, International Branch, ANM-116, Transport Airplane Directorate, FAA, 1601 Lind Avenue, SW., Renton, Washington 98057-3356; telephone (425) 227-1175; fax (425) 227-1149. Before using any approved AMOC on any airplane to which the AMOC applies, notify your principal maintenance inspector (PMI) or principal avionics inspector (PAI), as appropriate, or lacking a principal inspector, your local Flight Standards District Office.

(2) Airworthy Product: For any requirement in this AD to obtain corrective actions from a manufacturer or other source, use these actions if they are FAA-approved. Corrective actions are considered FAA-approved if they are approved by the State of Design Authority (or their delegated agent). You are required to assure the product is airworthy before it is returned to service.

(3) Reporting Requirements: For any reporting requirement in this AD, under the provisions of the Paperwork Reduction Act, the Office of Management and Budget (OMB) has approved the information collection requirements and has assigned OMB Control Number 2120-0056.

## **Related Information**

(u) Refer to MCAI EASA Airworthiness Directive 2007-0107-E, dated April 18, 2007, and the service bulletins identified in Table 1 of this AD for related information.

**Table 1 – Related service information**

<b>Document</b>	<b>Revision</b>	<b>Date</b>
Short Brothers Alert Service Bulletin SD360-55-A21	Original	December 16, 2004
Short Brothers Service Bulletin SD360-55-20	Original	June 26, 2003
Shorts Alert Service Bulletin SD360-55-A21	1	March 29, 2007

Shorts Service Bulletin SD360-55-20	1	June 20, 2005
Shorts Service Bulletin SD360-55-20	2	March 29, 2007

## Material Incorporated by Reference

(v) You must use the service information contained in Table 2 of this AD to do the actions required by this AD, unless the AD specifies otherwise. If you do the optional terminating action specified in this AD, you must use the service information specified in Table 3 of this AD to do that action, unless the AD specifies otherwise.

**Table 2 – Material incorporated by reference for required actions**

Document	Revision	Date
Short Brothers Alert Service Bulletin SD360-55-A21	Original	December 16, 2004
Short Brothers Service Bulletin SD360-55-20	Original	June 26, 2003
Shorts Alert Service Bulletin SD360-55-A21	1	March 29, 2007
Shorts Service Bulletin SD360-55-20	1	June 20, 2005
Shorts Service Bulletin SD360-55-20	2	March 29, 2007

**Table 3 – Material incorporated by reference for optional actions**

Document	Revision	Date
Short Brothers Alert Service Bulletin SD360-55-A21	Original	December 16, 2004
Shorts Alert Service Bulletin SD360-55-A21	1	March 29, 2007

(1) On September 15, 2008 (73 FR 46543, August 11, 2008), the Director of the Federal Register previously approved the incorporation by reference of Shorts Alert Service Bulletin SD360-55-A21, Revision 1, dated March 29, 2007; Shorts Service Bulletin SD360-55-20, Revision 1, dated June 20, 2005; and Shorts Service Bulletin SD360-55-20, Revision 2, dated March 29, 2007.

(2) On March 14, 2005 (70 FR 9212, February 25, 2005), the Director of the Federal Register previously approved the incorporation by reference of Short Brothers Alert Service Bulletin SD360-55-A21, dated December 16, 2004.

(3) On August 3, 2004 (69 FR 38813, June 29, 2004), the Director of the Federal Register previously approved the incorporation by reference of Short Brothers Service Bulletin SD360-55-20, dated June 26, 2003.

(4) For service information identified in this AD, contact Short Brothers PLC, Airworthiness, P.O. Box 241, Airport Road, Belfast BT3 9DZ, Northern Ireland; telephone +44(0)2890-462469; fax +44(0)2890-468444; e-mail michael.mulholland@aero.bombardier.com; Internet <http://www.bombardier.com>.

(5) You may review copies of the service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington. For information on the availability of this material at the FAA, call 425-227-1221 or 425-227-1152.

(6) You may also review copies of the service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: [http://www.archives.gov/federal\\_register/code\\_of\\_federal\\_regulations/ibr\\_locations.html](http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html).

Issued in Renton, Washington, on August 3, 2009.  
Ali Bahrami,  
Manager, Transport Airplane Directorate,  
Aircraft Certification Service.